

# Cooling

RimatriX5 IT Solutions from Rittal

**RIMATRIX5**  
DRIVING IT-PERFORMANCE



## RimatriX5 IT Solutions from Rittal

Heat is just one of the many factors severely affecting IT performance. Beat the heat with Rittal's scalable climate control solutions. From passive air to active liquid, Rittal's flexible cooling concepts are designed according to your requirements, to effectively handle unwanted heat loads.

Software assisted planning and requirements calculation, together with modular, rack-compatible technology help to minimize investment costs, thereby offering a particularly future-safe solution, thanks to the high degree of flexibility.

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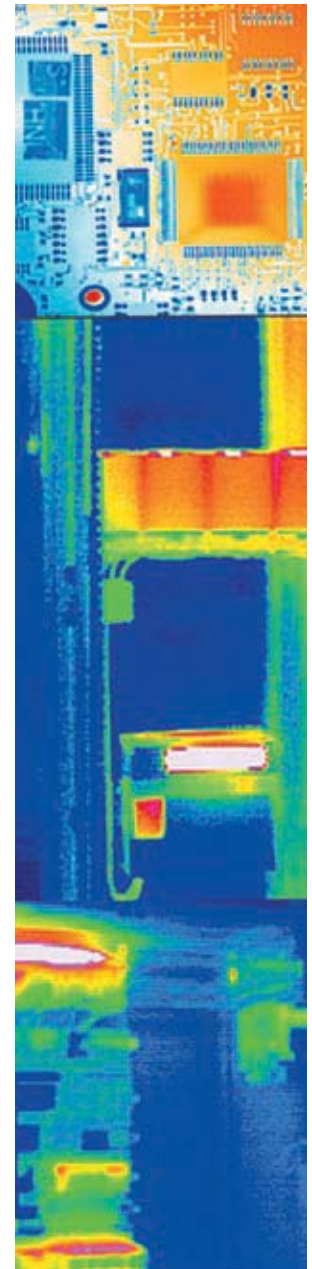
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Cooling

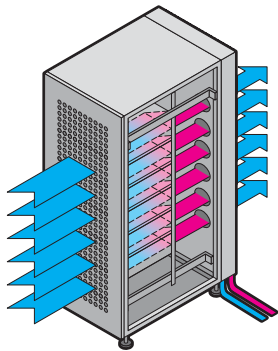
## Rittal Liquid Cooling Package



### Modular climate control concepts – to your specific requirements!

Rittal RimatriX5 solves the problem of climate control for high heat losses per rack with the Liquid Cooling Package (LCP) range. Extremely high heat loads are dissipated from the rack via the LCP air/water heat exchanger. Additionally, this system also allows temperature-neutral expansion of the data center.

Cooling



### LCP Extend



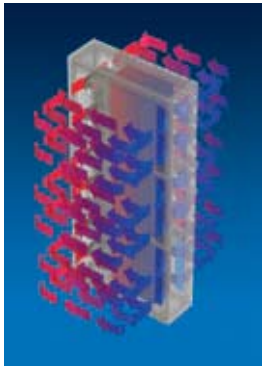
**Installation while operational**  
Air/water heat exchanger (10 kW) to support climate control of the room. For Rittal racks, the relevant door is preconfigured in the factory and exchanged on site.



**Suitable for use on any surface**  
The stand-alone unit may be fitted onto any suitably sized rear door (including other brands).



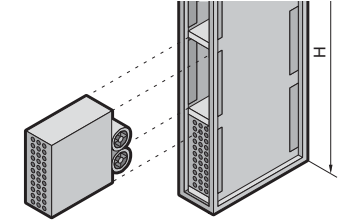
**Water connection variants**  
Water connection either at the bottom or top. Connection to the existing cooling circuit (optionally via water/water heat exchanger) or to recooling systems.



### LCP Standard



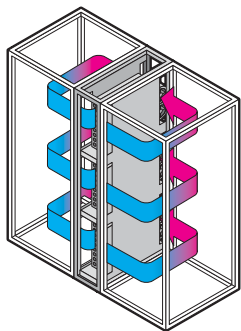
**Bayable with TS 8 server racks**  
As the height and depth are identical, it may be bayed either in the middle of an enclosure suite or at the end, for added assembly and service-friendliness.



**Up to 20 kW useful cooling output**  
The useful cooling output is achieved with a modular configuration (1 – 3 modules). Active condensate management supports inlet temperatures from 43°F to 68°F (+6°C to +20°C).



**Safe insertion, simple assembly**  
The separation of cooling and rack prevents water from penetrating the server rack. A recooling system supplies the required cooling fluid.



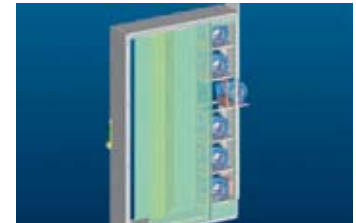
### LCP Plus



**Up to 40 kW useful cooling output**  
Useful cooling outputs of 28 kW (rack height 78.74" [2000 mm]) or 40 kW (rack height 94.49"



[2400 mm]) are achieved with 6 or 8 high-performance fans, which may be exchanged without the need for tools. Overall, the LCP Plus has been optimized for use in data



centers. Even with the enclosure doors open, e.g., during servicing work on servers, climate control is 100% guaranteed.

\* Cold water chillers and water/water HX available upon request  
\* SNMP monitored or controllable power strips available upon request

## Rittal Liquid Cooling Package



### LCP Extend

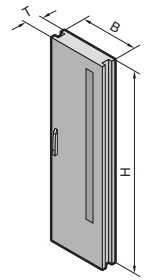
Air/water heat exchanger for retrofitting to racks while operational.

The stand-alone unit may be fitted onto any rear doors (including other brands).

For Rittal racks, the relevant door is preconfigured in the factory ready to be connected and exchanged on site.

#### Technical Specifications:

- Up to 10 kW useful cooling output
- Max. air volume 1767 cfm (3000 m<sup>3</sup>/h)
- Water connection either at the bottom or top



B = Width  
H = Height  
T = Depth



### LCP Standard

Air/water heat exchanger, bayable with server racks based on TS8.

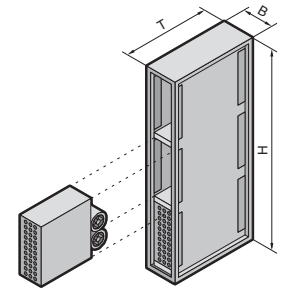
The useful cooling output of max. 20 kW can be achieved by installing additional modules.

The separation of cooling and rack prevents water from penetrating the server rack, and makes it more assembly and service-friendly.

LCPs are easy to handle (max. 6.5' [2 m]) and may be transported in lifts and through doors. The low weight means a minimal area load.

#### Technical Specifications:

- Up to 20 kW useful cooling output
- Max. air volume 1767 cfm (3000 m<sup>3</sup>/h)
- TÜV GS, UL/CUL, DIN 3168



B = Width  
H = Height  
T = Depth



### LCP Plus

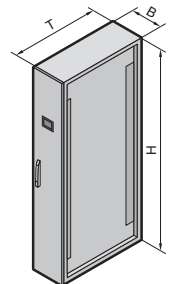
Air/water heat exchanger, bayable with server racks based on TS8. Complete unit with 28 kW useful cooling output.

The separation of cooling and rack prevents water from penetrating the server rack, and makes it more assembly and service-friendly.

LCPs are easy to handle (max. 6.5' [2 m]) and may be transported in lifts and through doors. The low weight means a minimal area load.

#### Technical Specifications:

- Up to 28 kW useful cooling output
- Max. air volume 2827 cfm (4800 m<sup>3</sup>/h)



B = Width  
H = Height  
T = Depth

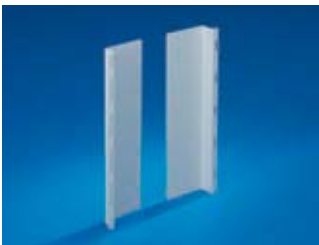
## Rittal Liquid Cooling Package

Cooling

<b>Part No.</b>	<b>3301.490<sup>1)</sup></b>	<b>3301.230</b>	<b>3301.420</b>	<b>3301.480<sup>1)</sup></b>	<b>on request</b>	
Description	LCP Extend	LCP Standard		LCP Plus	LCP Plus	
Rated operating voltage V, Hz	230, 50/60	230, 50/60		230, 50/60	230, 50/60	
Dimensions in inches (mm)	B	20.47 (520)	11.81 (300)	11.81 (300)	11.81 (300)	
	H	75.20 (1910)	78.74 (2000)	78.74 (2000)	94.49 (2400)	
	D	6.30 (160)	39.37 (1000)	47.24 (1200)	47.24 (1200)	
Usable U	42	42		42	51	
<b>Useful cooling output</b>	<b>10 kW</b>	<b>Up to 20 kW</b>		<b>Up to 28 kW</b>	<b>Up to 40 kW</b>	
Rated current	2.4 A/3.0 A	3.8 A/4.4 A		9.3 A/10.4 A	Technical specifications on request.	
Pre-fuse	6 A/6 A	10 A/10 A		16 A/16 A		
Cooling medium	Water (for specifications see Internet)					
Water inlet temperature	59°F (+15°C)	43°F to 68°F (+6°C to +20°C)				
Permissible operating pressure p. max.	87 psi (6 bar)	87 psi (6 bar)		87 psi (6 bar)		
Protection category to EN 60 529/10.91	–	IP 30				
Duty cycle	100 %					
Electrical connection	Connection cable					
Water connection	3/4" external thread			1" external thread		
Weight	99 lb (45 kg)	max. 376 lb (170 kg)		332 lb (150 kg)		
Color	RAL 7035 light grey					
Air throughput of fans	1767 cfm (3000 m <sup>3</sup> /h)			2827 cfm (4800 m <sup>3</sup> /h)		
Temperature control	Fan control		Electronically controlled magnetic valve and 4-way fan control			
<b>Additional module</b>						
Useful cooling output 4 kW (59°F [15°C], .28 cfm [8 l/min])	–	3301.250		–	–	

Special voltages and sizes available on request. Technical modifications reserved.  
 Rack heights of 88" (2200 mm) are achieved with an optional add-on cover.  
<sup>1)</sup> Delivery times available on request.

For LCP Ready Cabinet, see page 18.



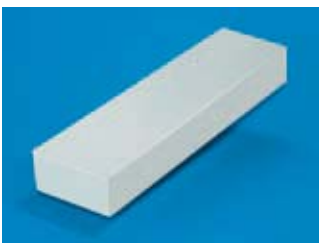
### Covers

For sealing any air inlet and outlet openings of the LCP that are not required.

#### Material:

Sheet steel, spray finished in RAL 7035

Packs of	Part No.
2	<b>3301.310</b>



### Add-On Cover

For height compensation with 88" (2200 mm) high racks in conjunction with the LCP (H = 80" [2000 mm]).

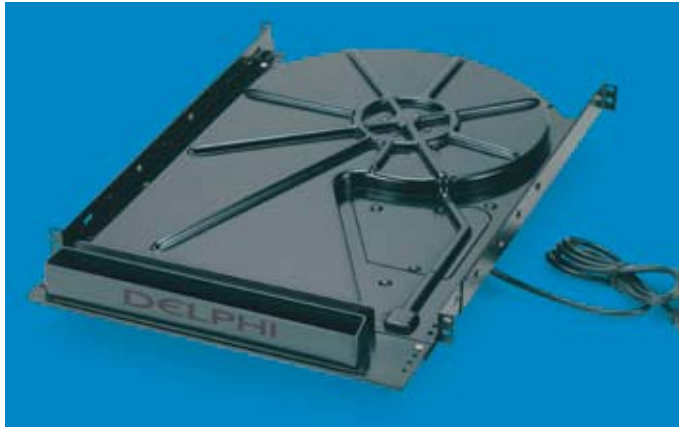
#### Material:

Sheet steel, spray finished in RAL 7035

For LCP	Part No.
3301.210	<b>3301.221</b>
3301.230	
3301.420	<b>3301.421</b>
3301.480	

Delivery times available on request.

## Rittal Enclosure Blower



### Rittal Enclosure Blower

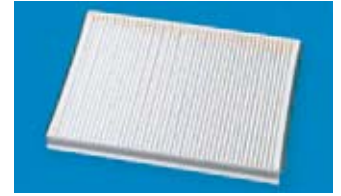
Assist airflow in your cabinets with the Rittal Enclosure Blower and be confident that your equipment will run cooler. The Enclosure Blower features a durable, lightweight polymer housing and fits in the bottom of server cabinets where it draws cool air from beneath the floor and boosts delivery of the coldest available air directly to server fronts. This unique blower is the suggested solution for solid or partially vented front doors with rails set back a minimum of four inches to establish the column of air to raise to the top of the cabinet.

### Benefits:

- Filter up to 80% efficient for 2 micron particles, providing clean cool air to your servers
- Improves air distribution reducing cabinet hotspots up to 15°F, extending server life and minimizing downtime
- Requires only 2U of mounting space
- Fits any EIA-310 compliant cabinet
- 5-year life
- Adjustable attachment brackets installs easily
- UL listed
- Optional filter assembly provides cleaner air



1



2

**Rittal's Enclosure Blower filters up to 80% efficiency for 2 micron particles providing clean cool air to your servers. Filter assembly features durable construction with simple hand tool assembly. The replaceable filters install without tools.**

### Dual Power Transfer Switch

Rittal's dual power transfer switch is designed to provide continuous 115 V AC power for the enclosure blower and other single corded fans and motor-driven devices. Capable of automatically switching a 5A load during a power failure on one input circuit, the dual power transfer switch can power other single corded fans and motor-driven devices commonly deployed in data centers. With 5A re-settable circuit breakers, the dual power transfer switch can easily handle the largest fans currently used in data and server cabinets. Two different colored 6' long power cords help ensure that power cable routing won't be a problem.

The dual power transfer switch can be mounted in the vertical zero RMU space inside the cabinet or on standard 19" rails with an optional 1U panel (not included).

While the switchover speed from the utility supply to battery/generator backup is more than fast enough for fans and other motor-driven devices, the dual power relay is not intended for use with digital equipment such as computers or equipment requiring a constant, uninterrupted source of power.



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### Technical Specifications:

- 115 V AC 5A max, 50/60 Hz
- Power cord 6' each, 5-15 plug
- Re-settable circuit breaker for each power cord
- 19" (482.6 mm) rackmount with 1U panel (not included)
- Maintains output power from two separate power sources
- 1.25" H x 9.5" W x 2" D

Description	Weight	Part No.
Enclosure blower w/attachment brackets 115 V AC, 0.65 Amp, 6'6" cord, 5-15 plug, 250 cfm	20 lbs shipped 14 lbs installed	<b>9969.639</b>
<b>1</b> Filter assembly	2 lbs	<b>9969.640</b>
<b>2</b> Replacement filters, 12 per box	5 lbs	<b>9969.641</b>
<b>3</b> Dual power transfer switch	5 lbs	<b>9969.658</b>

## Fan Systems



### Split Rear Door Fan

With today's high heat loads inside server enclosures, it is critical to use thermal management techniques with optimized enclosure ventilation. Having vented front and rear doors and a vented roof, Rittal's server cabinets provide such ventilation. Rittal's split rear door fan takes advantage of the front to rear airflow of most servers and allows the user to position the fan assembly in the most critical location within the cabinet. Two high pressure fans, 105 cfm each, feature a shallow depth chassis design and

provide the ability to exhaust hot air out the rear of the enclosure at a dramatically higher rate than traditional roof mount fan trays. The result is cooler operating equipment, even with very high enclosure heat loads.

#### Configuration:

- 2 fans per assembly (210 cfm total)
- Includes 10' cord/plug, mounting hardware
- Can be used for venting through roof by installing system bars/dual brackets (not included)



Volts	Total cfm	Cabinet Width (inches)	Color	Part No.
115	210	24"	RAL 7035 light grey	<b>9969.936</b>
			Black	<b>9969.937</b>
		28"	RAL 7035 light grey	<b>9969.940</b>
			Black	<b>9969.941</b>
		32"	RAL 7035 light grey	<b>9969.944</b>
			Black	<b>9969.945</b>
230	210	24"	RAL 7035 light grey	<b>9969.938</b>
			Black	<b>9969.939</b>
		28"	RAL 7035 light grey	<b>9969.942</b>
			Black	<b>9969.943</b>
		32"	RAL 7035 light grey	<b>9969.946</b>
			Black	<b>9969.947</b>

Black cells indicate RittalXpress product.

Cooling



### Roof Fan

Mounts easily into any enclosure roof. Requires round cutout.

#### Configuration:

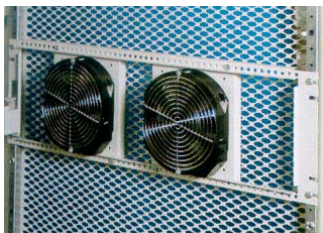
Fan assembly; 10' power cord with plug; grounding strap; installation hardware, 2 finger guards.

#### Material:

Fan housing of black painted sheet steel with chrome plated finger guards.



Protection rating	Noise level	Rated current	Air displacement	Dimensions in inches (mm)		Rated voltage V/Hz	Part No.
				Diameter	H		
NEMA 1	50 dBa	0.4 A	500 cfm	9.1 (232 mm)	3.79" (96.40 mm)	115/60	<b>9964.163</b>
NEMA 1	50 dBa	0.4 A	500 cfm	9.1 (232 mm)	3.79" (96.40 mm)	230/50/60	<b>9961.868</b>



### Server Fan Assembly

With today's high heat loads inside server enclosures, it is critical to use thermal management techniques which optimize enclosure ventilation. Having vented front and rear doors and a vented roof, Rittal's server cabinets provide such ventilation. Rittal's server fan assembly takes advantage of the front-to-rear airflow of most servers and allows the user to position the fan assembly in the most critical location within the cabinet.

dramatically higher rate than traditional roofmount fan trays. The result is cooler operating equipment, even with very high enclosure heat loads.

#### Configuration:

- 2 fans per assembly (440 cfm total)
- Includes 10' cord/plug, mounting hardware
- Optional fan expansion to total of 4 fans (220 cfm per fan)



\* TE server cabinets only

The powerful 220 cfm high pressure fans feature a shallow depth chassis design and provide the ability to exhaust hot air out the rear of the enclosure at a

Cabinet width	Part No.		Height in (mm)	Width in (mm)	Depth in (mm) <sup>(1)</sup>	cfm <sup>(2)</sup>	Voltage	Current	Noise
	RAL 7035 light grey	Black							
24	<b>9968.490</b>	<b>9968.493</b>	11.73 (298)	19.49 (495)	2.56 (65)	440	115/50/60	0.72A	59 dB(A)
28	<b>9968.491</b>	<b>9968.494</b>	11.73 (298)	23.43 (595)	2.56 (65)	440	115/50/60	0.72A	59 dB(A)
32	<b>9968.492</b>	<b>9968.495</b>	11.73 (298)	27.36 (695)	2.56 (65)	440	115/50/60	0.72A	59 dB(A)

1) Depth of extension from enclosure door into enclosure

2) Free air delivery

## Fan Systems



### Fan Expansion Kit

For retrofitting various fan units or to supplement the fan mounting plate and fan roof, modular.

#### Technical Specifications 7980.000:

Rated operating voltage: 230 V  
 Power consumption: 15/14 W at 50/60 Hz  
 Air displacement (unimpeded airflow): 94/106 cfm (160/180 m<sup>3</sup>/h), 50/60 Hz  
 Noise level (unimpeded airflow): 37 dB(A)  
 Temperature range: 14°F to 131°F (-10°C to +55°C)

#### Technical Specifications 7980.100:

Rated operating voltage: 230 V  
 Power consumption: 14/12 W at 50/60 Hz  
 Air displacement (unimpeded airflow): 64/71 cfm (108/120 m<sup>3</sup>/h), 50/60 Hz  
 Noise level (unimpeded airflow): 34 dB(A)  
 Temperature range: -4°F to -94°F (-20°C to +70°C)

Dimensions in inches (mm)	Packs of	Part No.
4.69 x 4.69 x 1.50 (119 x 119 x 38)	1 set	<b>7980.000</b>
4.69 x 4.69 x 0.98 (119 x 119 x 25)	1 set	<b>7980.100</b>
4.69 x 4.69 x 0.98 (119 x 119 x 25)	1 set	<b>7980.148</b>

#### Technical Specifications 7980.148:

Rated operating voltage: 48 V DC  
 Power consumption: 7.7 W  
 Air throughput (unimpeded airflow): 108 cfm (184 m<sup>3</sup>/h)  
 Noise level (unimpeded airflow): 42 dB(A)  
 Temperature range: -40°F to 158°F (-20°C to +70°C)

#### Supply Includes:

Fan, including assembly parts and connection cable (24" [610 mm])

\* For 115 V, inquire (**7980.110**)



### TE Roof Fan

For active ventilation of the TE 7000, a ventilation opening may be removed from the front of the standard roof plate and fitted with the fan module. The fan unit is pre-wired and ready for connection. It has 2 fans, 1 thermostat and a connection cable including IEC320 C14 connector. An additional fan may optionally be integrated via an integral terminal block.

#### Includes:

Fan unit, assembly parts, 2 fans, thermostat and connection cable

#### Technical Specifications for One Fan:

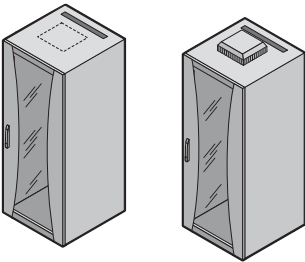
See Fan Expansion Kit above

#### Technical Specifications of Thermostat:

Rated operating voltage: 115 V or 230 V (210 cfm)  
 Temperature range: 40°F to 131°F (+5°C to +55°C)

#### Accessories:

Fan expansion kit, see above.



For enclosures W x D inches (mm)	Number of prewired fans	Rated operating voltage	Color	Part No.
All sizes	2	115 V	RAL 7035	<b>7000.920</b>
			RAL 9005	<b>7000.915</b>
		230 V	RAL 7035	<b>7000.670</b>

## Fan Systems



### DC Fan Mounting Plate

#### Exceptionally low-noise thanks to FCS speed control, fully fitted

Suitable for TS8 enclosures with a raised roof (> 0.79" [20 mm]) or TS8 roof plate, vented. The fan mounting plate may be used as an alternative to fan mounting plate 7988.035. It is installed from above. A cable entry is prepared in the rear section of the plate.

#### Benefits:

- Exceptionally low-noise due to speed control
- All fans are monitored individually for failure
- High air throughput due to DC technology (unimpeded airflow 6 x 97 = 584 cfm [6 x 165 = 990 m<sup>3</sup>/h])
- EMC-compatible due to DC fan
- Temperature monitoring and control
- High level of safety due to low 24 V DC power pack
- Visual and acoustic alarm messages, plus relay alarm output
- Freely selectable installation location for the FCS control unit (included with the supply of the fan mounting plate, in 19" [482.6 mm] with 7320.440 or on the frame with 7320.450)
- Suitable for international use, with a wide range power pack 100 – 240 V AC and IEC 320 socket
- Fully pre-configured
- Network-compatible via CMC-TC processing unit 7320.100 (all relevant data such as temperature, etc., is displayed in the web browser, or alarms are sent in the form of an SNMP trap)

For enclosures Width in (mm)	For enclosures Depth in (mm)	Number of DC fans	Part No.
32 (800)	32 (800) 36 (900) 40 (1000) 42 (1050) 48 (1200)	6	<b>7858.488</b>

#### Technical Specifications:

Power pack rated voltage 100 – 240 V AC, 50/60 Hz  
 Power pack rated current: max. 1.5 A  
 Power pack secondary range: 24 V DC, 3 A  
 Temperature range: 41°F to 104°F (+5°C to +40°C)  
 Total air throughput (unimpeded airflow):  
 6 x 97 = 584 cfm (6 x 165 = 990 m<sup>3</sup>/h)

#### Protection Category:

IP 40

#### Technical Specifications for One Fan:

Rated voltage: 24 V DC  
 Rated current: max. 0.28 A  
 Rated output: max. 6.72 W  
 Air throughput (unimpeded airflow): 97 cfm (165 m<sup>3</sup>/h)  
 Speed: 2650 rpm  
 Noise level: up to 41.0 dB(A) at maximum speed activation

#### Also Required:

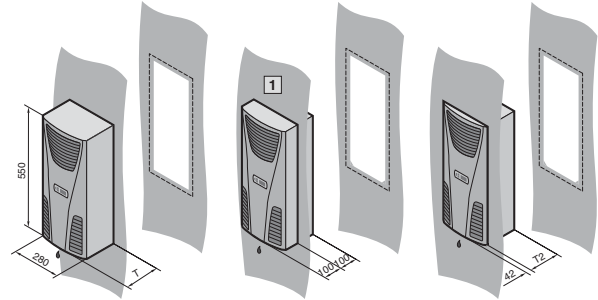
Connection cable 230/115 V  
 Example, US version, Part No. 7200.214

#### Accessories:

1U mounting unit, Part No. 7320.440  
 Mounting module, Part No. 7320.450



## Useful cooling capacity 1093/2080 BTU (320/610 W)



### Configuration:

Fully wired ready for connection, including drilling template and assembly parts.

With nano-coated condenser.

### Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

### Partial Internal Mounting Possible With 3303.XXX Only.

### Certifications:

UL, cUL, CSA  
UL file: ACVS2.SA8250

### Detailed Drawing:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Performance Diagrams:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Property Rights:

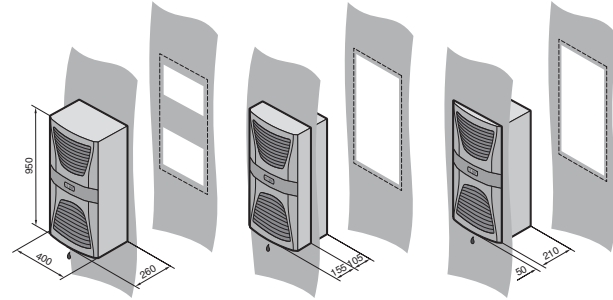
US design patent no. D 488,480  
IR reg. design no. DM/061 967 with validity for FR, IT, ES  
German registered designs no. 402 02 324 and no. 402 02 325  
Japanese registered design no. 1 187 896  
Indian registered design no. 189 953

Part No. with basic controller, RAL 7035 light grey		3302.100	3302.110	3303.100	3303.110
Part No. with comfort controller, RAL 7035 light grey		-		3303.500	3303.510
Voltage V, Hz		230, 50/60		230, 50/60	
<b>Dimensions in inches (mm)</b>					
	<b>Height (H)</b>	22 (550)		22 (550)	
	<b>Width (B)</b>	11 (280)		11 (280)	
	<b>Depth (T)</b>	6 (140)		8 (200)	
	T2	4 (98)		6 (158)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	864 (253)		2400 (703)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	1025/1093 (300/320)		1708/2083 (500/610)	
	L 95 L 122	512/581 (150/170)		957/1195 (280/350)	
Rated current maximum		1.6 A/1.7 A		3.3 A	
Starting current		3.0 A/3.4 A		8.0 A	
Pre-fuse T		10.0 A/10.0 A		10.0 A	
Power consumption Pel to DIN 3168	L 35 L 35	245 W/255 W		290 W	
	L 35 L 50	255 W/275 W		340 W	
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.2		1.4	
Refrigerant		R134a, 3.5 oz (100 g)		R134a, 6.0 oz (170 g)	
Maximum allowable operating pressure		263 psi (25 bar)		406 psi (28 bar)	
Temperature and setting range		68°F to 131°F (+20°C to +55°C)			
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)			
	Internal circuit	UL 12 (IP 54)			
Duty cycle		100%			
Type of connection		Plug-in terminal strip			
Weight in lb (kg)		28.7 (13)		37.5 (17)	
Air displacement of fans	External circuit	182 cfm (310 m³/h)		203 cfm (345 m³/h)	
	Internal circuit	203 cfm (345 m³/h)		182 cfm (310 m³/h)	
Temperature control		Basic or comfort controller (factory setting 95°F [+35°C])			
<b>Accessories</b>	PU				
Filter mats	3			3286.300	
Metal filters	1			3286.310	
Door-operated switch	1			4127.000	
SK bus system for comfort controller	1			3124.100	
RiDiag II including cables for comfort controller	1			3159.100	
Interface card for comfort controller	1			3124.200	
Condensate hose	1	3301.608		3301.610	

Special voltages available on request. Technical modifications reserved.

**Black cells indicate RittalXpress product.**

## Useful cooling capacity 3620/5150 BTU (1060/1510 W)



### Configuration:

Fully wired ready for connection, including drilling template and assembly parts.

With nano-coated condenser and integrated condensate evaporator.

### Note:

Integration of the air conditioner with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

### Certifications:

UL, cUL, CSA  
UL file: ACVS2.SA8250

### Detailed Drawing:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Performance Diagrams:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Property Rights:

German registered design no. 402 02 325  
IR reg. design no. DM/062 557 with validity for FR, IT, ES  
Indian registered design no. 190 269  
Japanese registered design no. 1 187 905

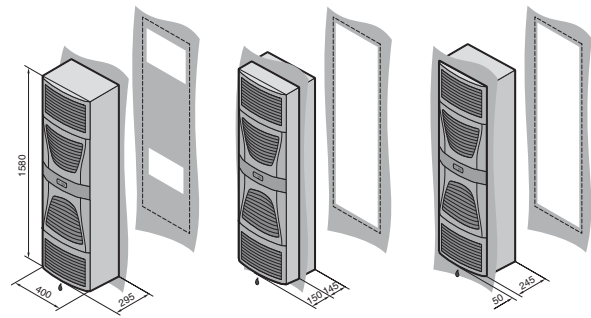
Part No. with basic controller, RAL 7035 light grey	3304.100	3304.110	3305.100	3305.110
Part No. with comfort controller, RAL 7035 light grey	3304.500	3304.510	3305.500	3305.510
Voltage V, Hz	230, 50/60	115 <sup>1)</sup> , 50/60	230, 50/60	115 <sup>1)</sup> , 50/60
<b>Dimensions in inches (mm)</b>				
H	37 (950)		37 (950)	
W	16 (400)		16 (400)	
D	10 (260)		10 (260)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	3916 (1147)		5794 (1697)
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	3415/3620 (1000/1060)		5123/5157 (1500/1510)
	L 95 L 122	2698/2869 (790/840)		4201/4269 (1230/1250)
Rated current maximum		4.8 A/4.4 A	9.5 A/10.0 A	5.4 A/6.0 A
Starting current		12.0 A/14.0 A	26.0 A/28.0 A	22.0 A/24.0 A
Pre-fuse T		10.0 A/10.0 A	16.0 A/16.0 A	16.0 A/16.0 A
Power consumption Pel to DIN 3168	L 35 L 35	700 W/650 W	725 W/680 W	850 W/1000 W
	L 35 L 50	750 W/710 W	780 W/750 W	1000 W/1160 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.4		1.7
Refrigerant		R134a, 17.6 oz (500 g)		R134a, 21.2 oz (600 g)
Maximum allowable operating pressure		363 psi (25 bar)		
Temperature and setting range		68°F to 131°F (+20°C to +55°C)		
Ratings to EN 60 529/10.91		External circuit	UL (IP 34)	
		Internal circuit	UL 12 (IP 54)	
Duty cycle		100%		
Type of connection		Plug-in terminal strip		
Weight in lb (kg)		86.0 (39)	97.0 (44)	90.3 (41)
				101.4 (46)
Air displacement of fans		External circuit	530 cfm (900 m <sup>3</sup> /h)	
		Internal circuit	353 cfm (600 m <sup>3</sup> /h)	471 cfm (800 m <sup>3</sup> /h)
Temperature control		Basic or comfort controller (factory setting +95°F [35°C])		
<b>Accessories</b>	PU			
Filter mats	3			3286.400
Metal filters	1			3286.410
Door-operated switch	1			4127.000
SK bus system for comfort controller	1			3124.100
RiDiag II including cables for comfort controller	1			3159.100
Interface card for comfort controller	1			3124.200
Condensate hose	1			3301.612

<sup>1)</sup> Delivery times available on request.

Special voltages available on request. We reserve the right to make technical modifications.

**Black cells indicate RittalXpress product.**

## Useful cooling capacity 8026/9392 BTU (2350/2750 W)



### Configuration:

Fully wired ready for connection, including drilling template, eyebolt and assembly parts.

With nano-coated condenser and integrated condensate evaporator.

### Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

### Additional Parts Needed:

For installation in the door, the use of a ride-up roller is recommended.

### Detailed Drawing:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Performance Diagrams:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Certifications:

UL, cUL, CSA  
UL file: ACVS2.SA8250

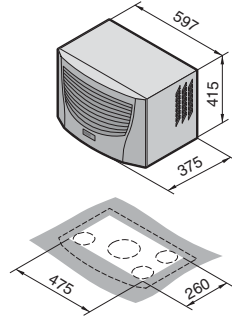
Part No. with basic controller, RAL 7035 light grey		3328.100	3328.110	3329.100	3329.110
Part No. with comfort controller, RAL 7035 light grey		3328.500	3328.510	3329.500	3329.510
Voltage V, Hz		230, 50/60	115, 50/60	230, 50/60	115, 50/60
<b>Dimensions in inches (mm)</b>					
	H	62 (1580)		62 (1580)	
	W	16 (400)		16 (400)	
	D	11 (290)		11 (290)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	8706 (2550)		10525 (3083)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	6830/8026 (2000/2350)		8537/9392 (2500/2750)	
	L 95 L 122	4952/6771 (1450/1690)		5464/5977 (1600/1750)	
Rated current maximum		6.9 A/8.5 A	13.6 A/16.2 A	8.0 A/10.0 A	16.0 A/21.0 A
Starting current		22.0 A/26.0 A	36.0 A/39.0 A	21.0 A/21.0 A	44.0 A/42.0 A
Pre-fuse T		16.0 A/16.0 A	25.0 A/25.0 A	16.0 A/16.0 A	25.0 A/25.0 A
Power consumption Pel to DIN 3168	L 35 L 35	900 W/1070 W	960 W/1130 W	1320 W/1550 W	1380 W/1600 W
	L 35 L 50	1130 W/1220 W	1170 W/1290 W	1500 W/1880 W	1550 W/1940 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.7		1.9	
Refrigerant		R134a, 33.5 oz (950 g)			
Maximum allowable operating pressure		406 psi (28 bar)			
Temperature and setting range		68°F to 131°F (+20°C to +55°C)			
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)			
	Internal circuit	UL 12 (IP 54)			
Duty cycle		100%			
Type of connection		Plug-in terminal strip			
Weight in lb (kg)		145.5 (66)	160.9 (73)	152.1 (69)	167.6 (76)
Air displacement of fans	External circuit	377 cfm (640 m <sup>3</sup> /h)		418 cfm (710 m <sup>3</sup> /h)	
	Internal circuit	324 cfm (550 m <sup>3</sup> /h)		377 cfm (640 m <sup>3</sup> /h)	
Temperature control		Basic or comfort controller (factory setting 95°F [+35°C])			
<b>Accessories</b>		PU			
Filter mats		3		3286.400	
Metal filters		1		3286.410	
Door-operated switch		1		4127.000	
SK bus system for comfort controller		1		3124.100	
RiDiag II including cables for comfort controller		1		3159.100	
Interface card for comfort controller		1		3124.200	
Condensate hose		1		3301.612	

<sup>1)</sup> Delivery times available on request.

Special voltages available on request. We reserve the right to make technical modifications.

**Blue cells indicate A items.**

## Useful cooling capacity 4098 BTU (1200 W)



### Property Rights:

German registered design no. 402 02 324  
German registered design no. 402 02 325



### Designed For Office Applications.

Low noise level (considerably quieter than air conditioners for industrial applications). With nano-coated condenser and integrated condensate evaporator.

### Configuration:

Fully wired ready for connection, including automatic condensate evaporation, drilling template and assembly parts.

With nano-coated condenser and integrated condensate evaporator.

### Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring

system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

### Accessories:

Roof plate for TS8 modular enclosures with mounting cutout.

### Certifications:

UL, cUL, CSA  
UL file: ACVS2.SA8250

### Detailed Drawing:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Performance Diagrams:

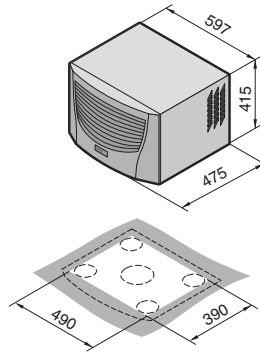
visit: [www.rittal-corp.com](http://www.rittal-corp.com)

Part No. with comfort controller		3273.500	3273.515 <sup>1)</sup>
Voltage V, Hz		230, 50/60	115, 50/60
Dimensions in inches (mm)	H x W x D	16 x 24 x 19 (415 x 597 x 475)	
Useful cooling capacity QK in BTU (W)	L 131 L 131	4687 (1373)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	3756/4098 (1100/1200)	
	L 95 L 122	2903/2971 (850/870)	
Rated current maximum		5.2 A/5.4 A	11.0 A/11.5 A
Starting current		15.5 A/16.5 A	32.0 A/35.0 A
Pre-fuse T		10.0 A/10.0 A	20.0 A/20.0 A
Power consumption Pel to DIN 3168	L 35 L 35	890 W/910 W	920 W/940 W
	L 35 L 50	960 W/1100 W	990 W/1140 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.2	
Refrigerant		R134a, 24.7 oz (700 g)	
Maximum allowable operating pressure		363 psi (25 bar)	
Temperature and setting range		68°F to 131°F (+20°C to +55°C)	
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)	
	Internal circuit	UL 12 (IP 54)	
Duty cycle		100%	
Type of connection		Plug-in terminal strip	
Weight in lb (kg)		92.6 (42)	103.6 (47)
Color		RAL 7035 light grey	
Air displacement of fans	External circuit	1036 cfm (1760 m <sup>3</sup> /h)	
	Internal circuit	259 cfm (440 m <sup>3</sup> /h)	
Temperature control		Basic or comfort controller (factory setting 95°F [+35°C])	
<b>Accessories</b>	PU		
Filter mats	3		3286.100
Metal filters	1		3286.210
Door-operated switch	1		4127.000
SK bus system for comfort controller	1		3124.100
RiDiag II including cables for comfort controller	1		3159.100
Interface card for comfort controller	1		3124.200
Air ducting system	1		3286.870
Cover stoppers for interior air outlet	2		3286.980
Condensate hose	1		3301.612

<sup>1)</sup> Delivery times on request.

Special voltages available on request. We reserve the right to make technical modifications.

## Useful cooling capacity 1742/2766 BTU (510/810 W)



### Property rights:

German registered design no. 402 02 324  
German registered design no. 402 02 325



### Configuration:

Fully wired ready for connection, including drilling template and assembly parts.

With nano-coated condenser and integrated condensate evaporator.

### Note:

Air conditioners with comfort controller may be integrated into a superordinate remote monitoring system with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

### Accessories:

Roof plate for TS8 modular enclosure with mounting cutout.

### Certifications:

UL, cUL, CSA  
UL file: ACVS2.SA8250

### Detailed Drawing:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Performance Diagrams:

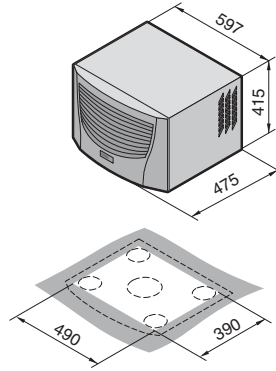
visit: [www.rittal-corp.com](http://www.rittal-corp.com)

Part No. with basic controller, RAL 7035 light grey	3382.100	3382.110	3359.100	3359.110
Part No. with comfort controller, RAL 7035 light grey	3382.500	3382.510	3359.500	3359.510
Voltage V, Hz	230, 50/60	115, 50/60	230, 50/60	115, 50/60
<b>Dimensions in inches (mm)</b>	H x W x D 16 x 24 x 15 (415 x 597 x 375)			
Useful cooling capacity QK in BTU (W)	L 131 L 131	1581 (463)	3081 (903)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95	1708/1742 (500/510)	2561/2766 (750/810)	
	L 95 L 122	922/1264 (270/370)	1861/2015 (545/590)	
Rated current maximum		2.7 A/2.9 A	5.5 A/6.0 A	3.0 A/3.9 A
Starting current		9.2 A/10.2 A	18.4 A/18.4 A	10.0 A/10.7 A
Pre-fuse T		10.0 A/10.0 A	10.0 A/10.0 A	10.0 A/10.0 A
Power consumption Pel to DIN 3168	L 35 L 35	360 W/410 W	370 W/420 W	410 W/520 W
	L 35 L 50	410 W/450 W	420 W/470 W	490 W/600 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35	1.4		1.8
Refrigerant		R134a, 8.8 oz (250 g)		R134a, 10.6 oz (300 g)
Maximum allowable operating pressure		363 psi (25 bar)		
Temperature and setting range		68°F to 131°F (+20°C to +55°C)		
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)		
	Internal circuit	UL 12 (IP 54)		
Duty cycle		100%		
Type of connection		Plug-in terminal strip		
Weight in lb (kg)		66.1 (30)	77.1 (35)	70.5 (32)
Air displacement of fans (unimpeded airflow)	External circuit	536 cfm (910 m <sup>3</sup> /h)		
	Internal circuit	259 cfm (440 m <sup>3</sup> /h)		
Temperature control		Basic or comfort controller (factory setting 95°F [+35°C])		
Accessories	PU			
Filter mats	3		3286.500	
Metal filters	1		3286.510	
Quick-change frame	1		3286.700	
Door-operated switch	1		4127.000	
SK bus system for comfort controller	1		3124.100	
RiDiag II including cables for comfort controller	1		3159.100	
Interface card for comfort controller	1		3124.200	
Air ducting system	1		3286.870	
Cover stoppers for interior air outlet	2		3286.780	
Condensate hose	1		3301.612	

Special voltages available on request. Technical modifications reserved.

Blue cells indicate A items.

## Useful cooling capacity 3688 BTU (1080 W)



### Property Rights:

German registered design  
no. 402 02 324  
German registered design  
no. 402 02 325



### Configuration:

Fully wired ready for connection, including drilling template and assembly parts.

With nano-coated condenser and integrated condensate evaporator.

### Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

### Accessories:

Roof plate for TS8 modular enclosure with mounting cutout.

### Certifications:

UL, cUL, CSA  
UL file: ACVS2.SA8250

### Detailed Drawing:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Performance Diagrams:

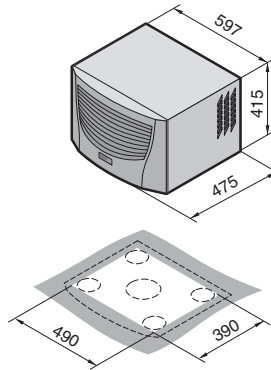
visit: [www.rittal-corp.com](http://www.rittal-corp.com)

Part No. with basic controller, RAL 7035 light grey	3383.100	3383.110
Part No. with comfort controller, RAL 7035 light grey	3383.500	3383.510
Voltage V, Hz	230, 50/60	115, 50/60
<b>Dimensions in inches (mm)</b>	16 x 24 x 19 (415 x 597 x 475)	
Useful cooling capacity QK in BTU (W)	4462 (1307)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	3415/3688 (1000/1080)	
Rated current maximum	4.3 A/4.5 A	8.3 A/8.7 A
Starting current	15.5 A/15.5 A	25.3 A/24.3 A
Pre-fuse T	10.0 A/10.0 A	16.0 A/16.0 A
Power consumption Pel to DIN 3168	550 W/650 W	580 W/660 W
Cooling coefficient $\phi = QK/Pel$	660 W/750 W	670 W/755 W
Refrigerant	R134a, 17.6 oz (500 g)	
Maximum allowable operating pressure	363 psi (25 bar)	
Temperature and setting range	68°F to 131°F (+20°C to +55°C)	
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)
	Internal circuit	UL 12 (IP 54)
Duty cycle	100%	
Type of connection	Plug-in terminal strip	
Weight in lb (kg)	88.2 (40)	101.4 (46)
Air displacement of fans	External circuit	1036 cfm (1760 m³/h)
	Internal circuit	259 cfm (440 m³/h)
Temperature control	Basic or comfort controller (factory setting 95°F [+35°C])	
<b>Accessories</b>	PU	
Filter mats	3	3286.500
Metal filters	1	3286.510
Quick-change frame	1	3286.800
Door-operated switch	1	4127.000
SK bus system for comfort controller	1	3124.100
RiDiag II including cables for comfort controller	1	3159.100
Interface card for comfort controller	1	3124.200
Air ducting system	1	3286.870
Cover stoppers for interior air outlet	2	3286.880
Condensate hose	1	3301.612

Special voltages available on request. Technical modifications reserved.

**Blue cells indicate A items.**

## Useful cooling capacity 5191/7274 BTU (1520/2130 W)



### Property Rights:

German registered design no. 402 02 324  
German registered design no. 402 02 325



### Configuration:

Fully wired ready for connection, including drilling template and assembly parts.

With nano-coated condenser and integrated condensate evaporator.

### Note:

Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

### Accessories:

Roof plate for TS8 modular enclosure with mounting cutout.

### Certifications:

UL, cUL, CSA  
UL file: ACVS2.SA8250

### Detailed Drawing:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

### Performance Diagrams:

visit: [www.rittal-corp.com](http://www.rittal-corp.com)

Part No. with basic controller, RAL 7035 light grey	3384.100	3384.110	3385.100	3385.110
<b>Part No. with comfort controller, RAL 7035 light grey</b>	<b>3384.500</b>	<b>3384.510</b>	<b>3385.500</b>	<b>3385.510</b>
Voltage V, Hz	230, 50/60	115, 50/60	230, 50/60	115, 50/60
Dimensions in inches (mm)	H x W x D 16 x 24 x 19 (415 x 597 x 475)		16 x 24 x 19 (415 x 597 x 475)	
Useful cooling capacity QK in BTU (W)	L 131 L 131 6009 (1760)		8272 (2423)	
Useful cooling capacity QK to DIN 3168 in BTU (W)	L 95 L 95 5123/5191 (1500/1520)		6830/7274 (2000/2130)	
	L 95 L 122 3757/4132 (1100/1210)		5362/5703 (1570/1670)	
Rated current maximum	5.7 A/6.8 A	12.5 A/14.1 A	5.7 A/6.6 A	13.0 A/14.2 A
Starting current	16.6 A/17.1 A	30.7 A/29.1 A	16.8 A/18.4 A	36.0 A/32.0 A
Pre-fuse T	10.0 A/10.0 A	20.0 A/20.0 A	10.0 A/10.0 A	20.0 A/20.0 A
Power consumption Pel to DIN 3168	L 35 L 35 815 W/930 W	850 W/950 W	1000 W/1175 W	1050 W/1250 W
	L 35 L 50 950 W/1090 W	1000 W/1150 W	1100 W/1310 W	1160 W/1380 W
Cooling coefficient $\phi = QK/Pel$	L 35 L 35 1.8		2.0	
Refrigerant	R134a, 17.6 oz (500 g)			
Maximum allowable operating pressure	363 psi (25 bar)			
Temperature and setting range	68°F to 131°F (+20°C to +55°C)			
Ratings to EN 60 529/10.91	External circuit	UL (IP 34)		
	Internal circuit	UL 12 (IP 54)		
Duty cycle	100%			
Type of connection	Plug-in terminal strip			
Weight in lb (kg)	90.3 (41)	103.6 (47)	92.6 (42)	105.8 (48)
Air displacement of fans	External circuit	1036 cfm (1760 m³/h)		1071 cfm (1820 m³/h)
	Internal circuit	277 cfm (470 m³/h)		
Temperature control	Basic or comfort controller (factory setting 95°F [+35°C])			
<b>Accessories</b>	<b>PU</b>			
Filter mats	3		3286.500	
Metal filters	1		3286.510	
Quick-change frame	1		3286.800	
Door-operated switch	1		4127.000	
SK bus system for comfort controller	1		3124.100	
RiDiag II including cables for comfort controller	1		3159.100	
Interface card for comfort controller	1		3124.200	
Air ducting system	1		3286.870	
Cover stoppers for interior air outlet	2		3286.880	
Condensate hose	1		3301.612	

Special voltages available on request. We reserve the right to make technical modifications.

**Blue cells indicate A items.**

## Accessories



### Interface Board

**For TopTherm Cooling Units with Comfort Controller for connecting to the CMC-TC monitoring system Processing Unit II (PU II).**

The interface board is an extension for TopTherm cooling units with a comfort controller. In this way it is possible to monitor a master/slave combination of up to 10 cooling units. Control is achieved by standardized interfaces: RS 232 (DB9) or RS 485, one PLC interface (DB9). RS 422 (RJ 45 jack) is the connection to the Rittal CMC-TC. Remote space monitoring by TCP-IP, graphical interfaces for operation, evaluation and control, documentation, connection to additional sensors for access control, monitoring is therefore possible.

Packs of	Part No.
1	3124.200

The extension card is built into a 1U plastic housing. A voltage supply of 24 V DC is needed. This may be supplied from the CMC-TC by a wide-range power pack (Part No. 7320.425) 100 to 240 V AC, 50/60 Hz or externally by a Kycon connector.

**Supply Includes:**

Interface board integrated into a plastic box  
H X W x D (inches): 1.73 (1U) x 5.35 x 5.00  
(44 x 136 x 129 mm)

Cooling



### Fan Speed Control

Temperature dependent speed control for Rittal fan and filter units and air/air heat exchangers with a rated operating voltage of 230 V AC for noise reduction and to save energy in part-load operation.

**Technical Specifications:**

- For mounting on a 1.38" (35 mm) support rail DIN EN 50 022
- Dimensions (H x W x D): 2.24 x 3.70 x 7.09" (57 x 94 x 180 mm)
- Rated operating voltage: 230 V AC/115 V AC
- Setting range: 68°F to 131°F (+20°C to +55°C)
- Phase cross-over with microcontroller
- Maximum fan output 250 W or 1.2 A at 230 V AC
- Maximum fan output 100 W or 1.2 A at 115 V AC

**Supply Includes:**

Speed control built into a PK enclosure 9512100, temperature sensor length 5.90' (1.80 m)

Rated operating voltage	Part No.
230 V AC	3120.000
115 V AC	3120.115 <sup>1)</sup>

1) Delivery times available on request.

**Accessories**

	Part No.
Mounting adapter	7526.964



Mounting Adapter



### Bottom-Mounted Adapter

**For enclosure internal thermostat 3110.000 and hygrostat 3118.000**

Bottom-mounted adapter with mounting option for screwed cable glands, for targeted cable infeed from appropriate equipment such as filter fan units and enclosure heaters. In conjunction with screwed cable glands, it is also suitable for use as strain relief.

PU	Part No.
1	3110.200

## Accessories



### Enclosure Internal Thermostat

Ideal for controlling filter fan units, heaters and heat exchangers, this thermostat can also be used as a signal generator for monitoring the enclosure internal temperature.

#### Technical Specifications:

- Bi-metal sensor as a temperature-sensitive element with thermal feedback
- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load:
  - Category 5 – 3 (heating)
  - AC 10 (4)<sup>(1)</sup> A,
  - DC = 30 W
  - Category 5 – 4 (cooling)
  - AC 5 (4)<sup>(1)</sup> A,
  - DC = 30 W
- (<sup>1</sup>) = Inductive load at  $\cos j = 0.6$
- Setting range 40°F to 140°F (+5°C to +60°C)
- Weight approximately 3.7 oz (105 g)
- Dimensions 2.80 x 2.80 x 1.30" (71 x 71 x 33 mm)
- Switching difference approximately 1 K ± 0.8 K
- A broad voltage spectrum, just one model covers 24 to 230 V
- Time-saving connection technique using a terminal strip with a screw connection from the outside
- Flexible mounting on a vertical or horizontal 1.38" (35 mm) support rail to EN 50 022, and snap fastening in the TS/ES enclosure section using the supplied adapter

Voltage	Part No.
230/115/60/48/24 V (AC)	3110.000
60/48/24 V (DC)	



### Hygrostat

The hygrostat switches on the heater and/or fan when a preset relative humidity level in the enclosure is exceeded. The relative humidity is raised above the dew point, and condensation on assemblies or electronic components is avoided.

#### Technical Specifications:

- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load:
  - AC ~ 5 (0.2)<sup>(1)</sup> A
  - DC = maximum 20 W
- (<sup>1</sup>) = Inductive load at  $\cos j = 0.6$
- Setting range 50 – 100% relative humidity
- Weight approximately 3.5 oz (100 g)
- Dimensions 2.80 x 2.80 x 1.30" (71 x 71 x 33 mm)
- Switching difference approximately 4%
- A broad voltage spectrum, just one model covers 24 to 230 V
- Time-saving connection technique using a terminal strip with a screw connection from the outside
- Flexible mounting on a vertical or horizontal 1.38" (35 mm) support rail to EN 50 022, and snap fastening in the TS/ES enclosure section using the supplied adapter

Voltage	Part No.
24 - 230 V (AC/DC)	3118.000

## Accessories



### Filter Mats for Air Conditioners

Rittal air conditioners are low-maintenance and are supplied without filter mats. Filter mats may be used for extreme conditions.

**Material:**

Open celled polyurethane foamed plastic with excellent physical and mechanical properties. Temperature resistant from -40°F to 176°F (-40°C to +80°C). Thickness: 0.39" (10 mm).

**For TopTherm Air Conditioners**

For Air Conditioner	HxWxD inches (mm)	PU	Part No.
3302.300 / 3302.310	3.7 x 7.5 x 0.4 (95 x 190 x 10)	1	<b>3286.110</b>
3302.100 / 3302.110 / 3303. . . . / 3361. . . .	7.9 x 10.4 x 0.4 (200 x 265 x 10)	1	<b>3286.300</b>
3304. . . . / 3305. . . . / 3328. . . . / 3329. . . . / 3332. . . . / 3366. . . .	11.3 x 13.5 x 0.4 (288 x 344 x 10)	1	<b>3286.400</b>
3273. . . . / 3382. . . . / 3383. . . . / 3384. . . . / 3385. . . . / 3359. . . .	10.0 x 20.9 x 0.4 (255 x 530 x 10)	1	<b>3286.500</b>
3386. . . . / 3387. . . .	11.8 x 28.3 x 0.4 (300 x 720 x 10)	1	<b>3286.600</b>
3377. . . .	8.3 x 8.1 x 0.4 (210 x 205 x 10)	1	<b>3253.010</b>

Cooling



### Spare Filter Mats for Filter Fans

**Made of chopped-fiber mat with a progressive structure.**

Temperature resistant to 212°F (100°C), self-extinguishing category F1 to DIN 53 438. Dust-laden air side: Open structure. Clean air end: Closed structure. Reliable filtering of virtually all types of dust from a particle size of 10 µm.

**Material:**

Chemical fiber

For Filter Fan Units	H x W x D inches (mm)	PU	Part No.
3321. . . .	4 x 4 x 0.4 (89 x 89 x 10)	5	<b>3321.700</b>
3322. . . .	5 x 5 x 1 (120 x 120 x 12)	5	<b>3322.700</b>
3323. . . .	7 x 7 x 1 (173 x 173 x 17)	5	<b>3171.100</b>
3324. . . . / 3325. . . .	9 x 9 x 1 (221 x 221 x 17)	5	<b>3172.100</b>
3326. . . .	11 x 11 x 1 (289 x 289 x 17)	5	<b>3173.100</b>
3327. . . .	11 x 11 x 0.4 (289 x 289 x 10)	5	<b>3327.700</b>
For Filter Holders	H x W x D inches (mm)	PU	Part No.
3175.000	10 x 13 x 1 (242 x 338 x 20)	3	<b>3174.000</b>



### Fine Filter Mats for Filter Fans

**Made of chopped-fiber mat with a progressive structure.**

Temperature-resistant to 100°C (212°F), self-extinguishing category F1 to DIN 53 438. Dust-laden air side: Open structure. Clean air end: Closed structure. Reliable filtering of virtually all types of dust from a particle size of 10 µm.

**Material:**

Chemical fiber

For Filter Fan Units/Outlet Filters	H x W x D inches (mm)	PU	Part No.
3323. . . .	7 x 7 x 1 (173 x 173 x 12)	5	<b>3181.100</b>
3324. . . . / 3325. . . .	9 x 9 x 0.4 (221 x 221 x 12)	5	<b>3182.100</b>
3326. . . . / 3327. . . .	11 x 11 x 1 (289 x 289 x 12)	5	<b>3183.100</b>

## Accessories



### Air Duct System

#### For TopTherm Roofmounted Air Conditioners

The air duct system for Rittal TopTherm roofmounted air conditioners makes it possible to route the cold air directly to specific areas of the enclosure. The risk of short circuits in the air circulation due to self-ventilated installed devices is eliminated.

The length of the flat duct is 59" (1500 mm), and it may be cut to the desired length.

#### Material:

Flame-resistant plastic to DIN 4102/B1.

#### Configuration:

Flat duct, compensating hose.

#### Accessories:

90° deflector, see [www.rittal-corp.com](http://www.rittal-corp.com).

Cover bungs, see [www.rittal-corp.com](http://www.rittal-corp.com).

For Air Conditioner	PU	Part No. Air Duct System
3382. . . /3383. . . /3384. . . /3385. . . / 3273. . . /3359. . . .	1	<b>3286.870</b>
3386. . . /3387. . . .	1	<b>3286.970</b>

#### Note:

Do not direct cold air straight at active components. When using the ducting system, the performance of the air conditioner may be reduced, depending on the application in question.

